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Health Care Workers Smoke as Well – Who, How Much and Why?

Dragica Pesut[1,2], Branka Milovanovic[1], Milica Bulajic[3], Danica Bozic[2]

[1]School of Medicine University of Belgrade, Belgrade, Serbia
[2]Clinical Centre of Serbia, Institute of Lung Diseases and Tuberculosis, Research and Epidemiology Department, Belgrade, Serbia
[3]Faculty of Organizational Sciences, Belgrade, Serbia

REZUMAT

Şi lucrătorii din domeniul sanitar fumează – cine, cât de mult şi de ce?

În acest studiu observaţional bazat pe un chestionar original, am investigat un grup de lucrători în domeniul sanitar – fumători angajaţi ai unui spital universitar, pentru a identifica trăsăturile de bază ale fumatului. Un total de 137 de fumători au fost rugaţi să răspundă la întrebări voluntar şi anonim. Rata de răspuns a fost de 70%: din cei 96 de participanţi cu chestionare valide 93% erau femei, mai ales asistente (71%), cu vârsta medie 40,5 ani (19-58 ani). Au început să fumeze în medie la 20 de ani, 83% au început înainte de 23 de ani. Durata medie a fumatului a fost de 19,1±9,378 ani şi numărul mediu de ţigări pe zi a fost de 17±7,90. Ei fumează 18±13,55 pachete-an; 25% fumează 7,42 pachete-an, 25% fumează >27,5 pachete-an. Aproximativ 59% au încercat şi nu au reuşit să se lase iar 61% intenţionează să abandoneze fumatul (cei căsătoriţi semnificativ mai mulţi decât cei singuri). Cele mai importante motive pentru a fuma au fost, în ordine: a) obişnuinţa (35,36%), b) nervozitatea (12,13%) şi c) plăcerea (11,11%). Plictiseala şi dorinţa au fost rareori menţionate, doar 7 (7,3%) au recunoscut dependenţa. Este nevoie urgentă de educaţie medicală continuă privind fumatul ca boală inducătoare de dependenţă, prevenţia sa primară şi remediile, inclusiv asistenţa profesională în abandonul fumatului.

Cuvinte cheie: *fumat, lucrători în domeniul sanitar, epidemiologie, chestionar*

ABSTRACT

In this observational study based on an original questionnaire, we investigated a group of health care workers – smokers employees of a teaching hospital in terms of basic features of tobacco smoking. A total of 137 smokers were asked to answer the questions on voluntary basis and anonymously. Response rate was 70%: a total of 96 participants with valid questionnaires consisted of 93% women, predominantly nurses (71%); mean age 40.5 (range 19-58 years). They started smoking at the age of 20 years on average; 83% started smoking before the age of 23. The mean smoking duration was 19.1±9.378 years and the average number of the cigarettes smoked per day was 17±7.90. They smoke 18±13.55 pack/year; 25% smoke 7.42 pack/year, 25% smoke >27.5 pack/year. Some 59% had tried and failed to stop smoking while 61% intend to stop smoking (married significantly more intend to quit than singles). The most important reasons for smoking, in a rank order, were: a) habit (35.36%), b) nervousness (12.13%) and c) pleasure (11.11%); boring and desire were rarely mentioned; only 7 (7.3%) stated addiction. There is an urgent need of continuous medical education on tobacco smoking as an addictive disease, its primary prevention and cure, including professional assistance in smoking cessation.

Key words: *tobacco smoking, health care workers, epidemiology, questionnaire*

Introduction

Tobacco smoke contains more than 4600 toxic chemicals, including nicotine, carcinogenic materials, tar and high concentration of free radicals[1]. It is nicotine that makes tobacco smoking a most dangerous type of addictive disease, which has pandemic character due to its mass and harmful effects on human health[2]. Currently, tobacco smoking is the most important preventable risk factor of morbidity and mortality in the world[2,3].

Smoking is the cause of numerous disorders of the respiratory and cardiovascular systems. It also presents a risk factor for peripheral vessels disease, cerebrovascular insult, subarachnoidal hemorrhage as well as peptic ulcers. Smokers in general have higher morbidity rate and a double higher risk of coronary artery disease related death. Tobacco smoking increases susceptibility to upper and lower respiratory tract infections, causes and worsens chronic obstructive pulmonary disease. It is the main cause of lung cancer and a risk factor for other malignant diseases: lip, oral cavity, larynx, esophageal and urinary bladder cancers[2,3].

In vitro and *in vivo* experiments showed immunosuppressive effect of tobacco smoke ingredients on T- and B-lympho-

Contact: Dragica Pesut, MD, PhD, Institute of Lung Diseases and Tuberculosis Research and Epidemiology Department, 11000 Belgrade, Visegradska 26, Serbia,
E-mail: dragica.pesut@gmail.com

cytes and that nicotine is the main immunosuppressive compound[3-6]. By means of oxidative stress, tobacco smoke causes numerous health disturbances and tissue damages[7]. The degree of this harmful effect depends on the intensity of smoking, i.e. on smoking duration and the number of cigarettes smoked per day. Individual variation can be observed in the response to tobacco smoke effects, i.e. the variation in the response denotes difference in the degree of human susceptibility on tobacco smoke ingredients, which is genetically influenced[2].

Smoking also affects the health of the persons in a smoker's surrounding. Namely, apart from direct harmful effect of tobacco smoke ingredients on smoker's health, there is unfavourable effect in passive smokers due to exposure to the environmental tobacco smoke. The latter is compound of so-called „combined stream" – more alkaline smoke exhaled by active smoker and burning products of a cigarette or cigar[2,3]. Passive smoker inhales more than 4000 toxic chemicals including numerous carcinogen substances[6]. Children are the most vulnerable to environmental tobacco smoke; even fetus is considered passive smoker if the pregnant woman smokes, either actively or passively[2,3].

According to the proportion of smokers, Serbia is among the first countries in Europe. Despite a better situation compared to 2000, about 38% of the adult population smoked in 2006 while considerable proportion was exposed to tobacco smoke at the workplace (45%) or household (61%)[8]. The number of smokers among children and adolescents was increasing. More than a half of the aged 13-15 years have tried to smoke cigarettes[8].

Unfortunatelly, tobacco smoking as an addictive disease has not spared health care workers (HCW). Apart from the fact that they are best informed about its harmful effects, they constantly have the opportunity to meet the consequencies in their routine practice. HCWs are expected to promote non smoking and smoking cessation. Unfortunatelly, smoking habits of physicians or nurses become a problem especially when they are supposed to suggest to others to stop smoking or when they work in a medical unit dedicated to smoking cessation[2]. Research on tobacco smoking status among physicians of the Clinical Centre of Serbia in Belgrade (a tertiary level facility) performed 15 years ago, showed 34% active smokers without significant difference by sex[9]. Promoting a healthier life style and emphasising the role of HCW in this process, the campaign „Tobacco free hospitals" was a challenge[3].

Aim of the Study

Starting from the point that current smokers and former smokers in 2008 constitute 51% of all the employees of a teaching hospital in Belgrade, Serbia[10], we aimed to investigate basic features of tobacco smoking among health care workes, including the most frequent reasons for starting and continuing smoking, based on their own opinion.

Methods

This observational cross-sectional study was performed in December 2008. The Study group consisted of smokers – health care workers of a tertiary level health care facility in Belgrade, Serbia. We considered health care workers all the employees of the facility no matter their education level or working profile, following the definition from a guide of the World Health Organization[11]. The students of Medical Faculty and Secondary Medical School were excluded from the study although their practical teaching activity was organized within the facility, thus they also might represent health care workers according to the mentioned definition.

We created the questionnaire and used chief nurses of the departments network to distribute them to each of the employees declared smoker. The questionnaire was delivered to each participant in an open envelope where the filled questionnaire could be turned back and collected by the chief nurses. At the very beginning, it contained pertinent explanation of the purpose of the study with highlights on his/her voluntary and anonymous participation, and that the data obtained would not have any consequences on the participants, aiming for research only.

The questionnaire was created to obtain basic demographic data, and then contained smoking-related questions. These latter included the age at the start of smoking, the number of smoked cigarettes per day, overall duration of smoking expressed in years, i.e. pack-years. A pack/year ment one year of smoking 20 cigarettes per day[2]. An open question referred to the participants' opinion about the main reason(s) for their smoking. We intended to investigate if they had an intention to stop smoking and/or if they previously had made such an attempt.

Results

From the total of 153 questionnaires prepared for delivery to the smokers, 16/153 have not been delivered due to a smoker's longer absence from the work due to illness or other causes and the rest of 137 were delivered. From the delivered questionnaires, 19 have not beed returned. Among the 118 turned, 11 questionnaires were totally and 11 partially unfilled. Thus, these 22 questionnaires have not been included into analysis. We studied the group of 96 smokers, representing 70% of the delivered questionnaires (table I).

Sex distribution was: 89 (89/96, 93%) women and 7 men, the average age was 40.5 years (ranging 19 to 58). With regard to the education degree, we found that 68 (71%) had secondary school, 6 (6%) high school, 10 (10%) faculty, and 4 (4%) postgraduate studies. Related to the participants' marital status, our study showed 20 (21%) singles, 57 (59%) married, and 19 (20%) divorced.

The analysis of tobacco smoking features showed that the average smoking duration was 19.1 (SD=9.378) years and that the majority of the participants started smoking at the age of 20 years. Eighty participants (83%) started smoking before the age of 23 years. The average number of smoked cigarettes per day was 17 (SD=7.90). Our participants smoke, on average, 18 p/y (SD=13.55).

We found positive answer to the question on previous attempt to stop smoking in 57 (59%) participants, and 59 (61%) intented to stop smoking in the future. There were significantly more married subjects among those who intended to stop smoking – 38 (64%) compared to not married 21 (36%) (Fig. 1).

The most important reasons for smoking in ranked order were: a) habit (35, 36%), b) nervousness (12, 13%) and

Table I.
Characteristics of the health care workers smokers (HCWs) (N=96)

Characteristic	Number (and %) of HCW
Age (years)	
Mean	*40±9,808*
Median	*40.5*
Range	*19-58*
Sex Male/Female	*7/89 (07/93)*
Education	
Without school	*2 (2)*
Primary school	*6 (6)*
Secondary school	*68 (71)*
High school/College	*6 (6)*
Faculty	*10 (11)*
Postgraduate	*4 (4)*
Marital status	
Single	*20 (21)*
Married	*57 (59)*
Divorced	*19 (20)*
Widow	*0 (0)*
Previous attempt to stop smoking	
Yes	*57 (59)*
No	*39 (41)*
Intention to stop smoking	
Yes	*59 (61)*
No	*37 (39)*
Age at the start of smoking (Mean)	*19.8±4.428*
Duration of smoking (yr) (Mean)	*19.1±9.378*
Number of cigarettes per day (Mean)	*17±7.90*
Number of pack/years (Mean)	*18±13,55*
Assumed causes of smoking	
Habit	*35 (36)*
Being upset	*12 (13)*
Pleasure	*11 (11)*
Addiction	*7 (7)*
Being bored	*4 (4)*
Desire	*3 (3)*
Other	*24 (25)*

c) pleasure (11, 11%). Rarely, boring and desire were mentioned, and only 7 (7.3%) participants stated addiction as the cause.

Discussions

The response rate in this study was 70%. The fact that the questionnaire was anonymous might have had a positive influence to this percentage. Apart from 11 questionnaires which have not been taken into account due to missing answers to some of the questions, 11 questionnaires were turned back totally unfilled while 19 have not been turned back at all. This might be due to the fact that those participants/patients who did not respond to the questionnaire requirements usually (but not always) have more severe prognosis of the illness compared to those who fully respond[9]. Having this in mind, the 11 questionnaires returned in their envelopes but unfilled might belong to the smokers with longer smoking duration or larger number of cigarettes smoked per day, who do not intend to stop smoking.

The higher prevalence of female smokers over male in our study does not reflect a higher female tendency to smoking but is rather consequence of the structure of the employees within health care facility where the female nurses represent the most numerous staff.

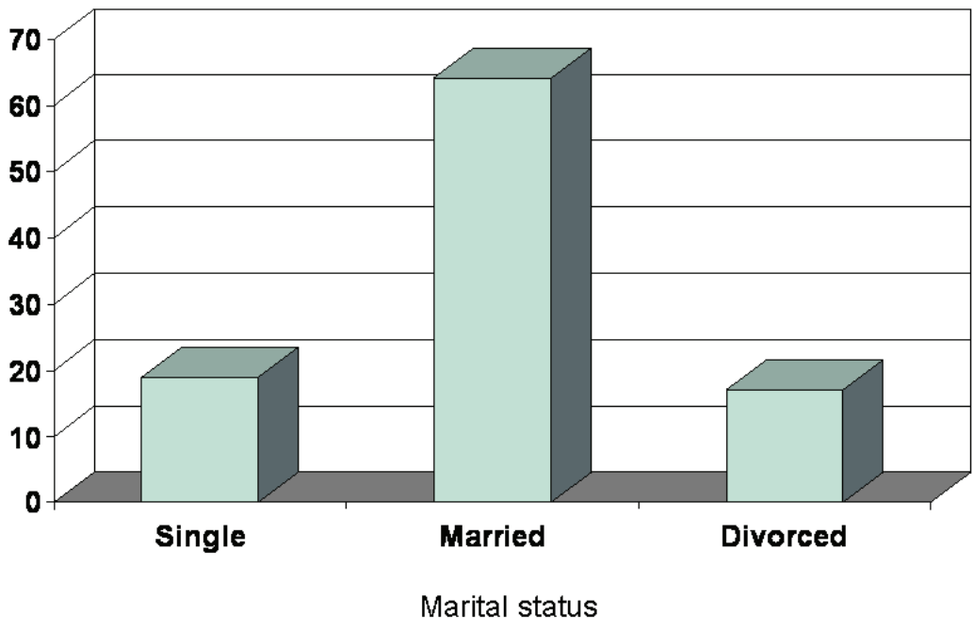
Average age at the start of smoking was 20 years in our analysis, which is less compared to the female smokers' average in developing countries where women usually start smoking at the age of 23 years. In this study, 83% smokers started smoking before the age of 23 years. This could be explained by women's emancipation, their feeling of independence, self confidence based on employment and ability to earn and buy cigarettes and the attempt to stay in the company of smokers.

The fact that 27% of the participants smoke 27 p-y and over, and that more than 40% of all the participants do not intend to stop smoking appoint to insufficient knowledge on tobacco smoke harmful effect on human health but also to the strength of nicotine dependency. The latter is one of the most important factors for previous smoking cessation failure in 59% of the participants in the study. Similarly, among physicians of the same setting in 1994, 46% had made an unsuccessful attempt to stop smoking[9]. This appoints to the importance of professional help in smoking cessation, the health care workers and especially physicians should be familiar with. Namely, 50% of smokers who previously failed to stop smoking will not succeed in their next attempt without the professional help[2].

The most frequently stated causes of smoking (habit, nervousness and pleasure) show that the participants miss knowledge on tobacco smoking as an addictive disease because only 7 out of 96 stated addiction as a cause of the smoking[2, 13]. Many HCWs started smoking before or during their adolescence period. This emphasizes necessity of intensifying over-all measures of primary prevention of smoking in pre-adolescence age to allow a significant proportion of future HCWs stay non smokers[14]. Apart from self health protection, and protection of the health of the persons in their surroundings, HCWs non smokers may serve as behavioral model to the patients and may easier work in smoking cessation services. The movement „Tobacco free hospitals" was actually based on the importance of the positive example which employees of a health care facility could offer to the society[3].

The results of our study suggest the need of continuous medical education, explaining the harmul effects of tobacco smoking on human health, recognizing of tobacco smoking as an addictive disease, its primary prevention and cure. Among these, the measures of primary prevention might be the most effective if applied through well planned and developed programmes following the principles of modern science Information, Education, Communication[14]. The education should include medical and nursing students as well.

Figure 1.
Distribution of the health care workers who intend to stop smoking, by marital status, shows that married HCWs significantly more intend to do so.



Conclusions

Tobacco smoking among HCWs is a serious problem. The children of pre-school and school ages should be the main target groups in the programmes of primary prevention of tobacco smoking. They shoud learn about harmul effects of tobacco smoke and nicotine, the first drug next to heroin by its ability to induce addiction, which makes smoking cessation difficult. Thus, it is of utmost importance not to light the first cigarette ever.

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